

CITY OF LODI

COUNCIL COMMUNICATION

AGENDA TITLE:

Public Benefits Program - Demand-side Management Projects:

• Wallace, Incorporated (\$52,736.00)

Lodi Unified School District (\$48,180.00)

• Twin Arbors Athletic Club (\$22,535.00)

MEETING DATE:

February 17, 1999

PREPARED BY:

Electric Utility Director

RECOMMENDED ACTION:

That the City Council approve three (3) Public Benefits Program grants totaling \$123,451.00 for various energy efficiency and demand-side management projects. Please see attachment 'A' for specifics on these projects.

BACKGROUND INFORMATION:

In November of 1998, the City of Lodi Electric Utility provided the City Council with an overview of the Public Benefits Program. Included in the program are

four customer groups: commercial/industrial, residential, municipal, and community/non-profit. The aforementioned demand-side management projects are categorized as: commercial/industrial (Wallace, Incorporated and Twin Arbors Athletic Club) and community/non-profit (Lodi Unified School District).

In partnership with the energy consulting firm of Energy Masters, International, the City of Lodi Electric Utility has conducted numerous site visits with all three customers. In addition to the site visits, energy assessments and engineered analyses have been conducted, where applicable, for these three customers.

As a result of the completed assessments, the City of Lodi Electric Utility respectfully recommends approval of these funding requests as qualifying grants under the Public Benefits Program.

FUNDING:

160604 - Public Benefits Program Fund (Category: Demand-side Management)

Alan N. Vallow Electric Utility Director

PREPARED BY:

Rob Lechner, Manager of Customer Programs

ANV/RL/lst

C: City Attorney

APPROVED:		
	H. Dixon Flynn City Manager	

Attachment - Public Benefits Program; City of Lodi Council Communication, February 17, 1999

Description of various demand-side management projects:

Wallace, Incorporated-

This Public Benefits Program grant for a total of \$52,736.00 would be utilized for the installation of two specific energy conservation measures. The first component entails a plant production-area lighting efficiency & improvement project. Approximately 242 high efficiency T-8 fluorescent lamps will be installed, replacing the existing T-12 lighting system. The new T-8 lights have a rated life span of 20,000 run hours, which is more than double the life of the T-12 lamps. In addition, the new T-8 lamps will significantly reduce the heat output, which in turn reduces cooling load requirements. The other component of the lighting retrofit includes the installation of new, state-of-the-art electronic ballast's in the plants production area.

The second phase of the Wallace, Incorporated demand-side management project involves the removal of the plants two existing 60-ton packaged air conditioning units, which have reached their expected useful life and are now operating below design efficiency standards. It is recommended that these units be replaced with two high efficiency 60-ton direct expansion units, that are built with high efficiency fan motors and variable frequency drives.

The actual Public Benefits Program grant of \$49,136.00 represents 25% of the total installed cost of the aforementioned projects. The additional \$3,600.00 requested for Wallace, Incorporated is for measurement and verification. Three separate readings will be taken to ensure that the installed equipment is operating as designed, and that projected energy savings are being realized by the customer. The total demand-side management project request for Wallace, Incorporated is \$52,736.00.

Wallace, Incorporated, a national commercial printer of business forms, labels and other office products, has been located here in Lodi since 1983, and employs over 100 people.

Lodi Unified School District (LUSD)-

Last December, the City of Lodi Electric Utility, in partnership with Energy Masters, International, completed a thorough energy assessment of Lodi High School. As a result of this assessment, a series of ten (10) energy conservation measures were identified and recommended for action to LUSD maintenance and operations personnel. In the weeks following this energy assessment, LUSD developed their specific request for funding list, based upon the City of Lodi's energy recommendations. The LUSD staff has selected the following energy conservation measures, which in total, amount to \$48,180.00 (for various energy efficient equipment and related materials required for installation):

- remove dozens of existing exterior campus light fixtures, and replace with new, energy efficient lighting;
- install photo cell controls and start/stop programming equipment on all exterior lighting;
- install eight (8) new, high efficiency HVAC (heating/cooling) units, and related installation materials;
- adjust the school's existing automation system to capture energy savings and enhance the systems operating capacity;
- install a heat-saving pool cover, and related tube reel system for covering and uncovering of pool.

In the ensuing months, the City of Lodi Electric Utility and Energy Masters, International, will be teaming up with LUSD maintenance and operations personnel to continue the energy needs assessment at *all* other LUSD school sites and facilities in Lodi. This creative partnership will serve as a benchmark for other electric utilities and school districts around the state to replicate.

Twin Arbors Athletic Club- 1900 S. Hutchins Street facility-

This funding request in the amount of \$22,535.00 would be utilized for the installation of new, high efficiency air source heat pumps that will replace the 12 existing heat pumps (which were commissioned in 1980). The air source heat pump units utilize the refrigeration cycle for both cooling and heating. This innovative and energy efficient technology serves as a conventional air conditioner while in the cooling mode, and then reverses the refrigeration cycle in the heating mode, by removing heat from the outside conditions and transferring it indoors for space heating. The total projected installed cost for the new air source heat pumps is \$75,739.00. Seventy-five percent of the total installed cost will be borne by the customer. The Public Benefits Program grant request for the installation of the aforementioned equipment totals \$18,935.00.

The additional request for \$3,600.00 is for measurement and verification. The City of Lodi Electric Utility will conduct periodic measurements at the Twin Arbors facility that will serve as verification that the projected energy savings are being realized by the customer, and that the installed equipment is performing as designed.

The Twin Arbors Athletic Club, which operates three facilities in Lodi, employs approximately 100 people. The family and individual health & fitness center has been located at the S. Hutchins Street site since 1981.



Alan Vallow Director City of Lodi Electric Utility 1331 South Ham Lane Lodi, CA. 95242

Dear Alan,

On December 21, 1998 members of my staff toured Energy Masters International (EMI) personnel through Lodi High School in search of additional energy conservation measures available at this facility. A list of ten additional energy conservation measures was compiled by EMI and delivered to Maintenance and Operations for consideration. Upon review of these measures, I would like to submit the following proposal.

Maintenance and Operations has selected five additional energy conservation measures from the "Site Survey" conducted by EMI.

- 1.) "All exterior campus lighting should be retrofitted or changed to new lower wattage high efficiency lighting equipment."
- 2.) "Exterior lighting should be retrofitted with more photo cells and lighting start/stop programming by the facility automation system should be reviewed and/or expanded."
- 4.) "Old HVAC units should be changed to new high efficiency commercial Heat Pump units."
- 5.) "The facilities automation system should be reviewed for expanded energy efficiency operation."
- 6.) "Install pool cover."

Under the Public Benefits Program Maintenance and Operations proposes to procure the necessary materials to accomplish these selected measures. It is important to note that all Public Benefits Program monies would be spent on materials only. Qualified district personnel would perform installation of all measures undertaken during normal working hours.

The total for all necessary materials to accomplish additional energy conservation measures 1.) 2.) 4.) 5.) And 6.) is \$ 48179.32. The itemized material list is attached.

I would estimate that upon receipt of materials, installation of the additional energy conservation measures would be completed within ninety working days. Thank you for the opportunity to submit this proposal and I look forward to partnering with City of Lodi Electric Utility in Energy Efficiency in all Lodi Schools.

Mike Matranga, Director

Cc: Mary Joan Starr, Assistant Superintendent Facilities
Richard Ferrara, Assistant Superintendent Secondary Education
1305 E. Vine St. Kelly Mauch, Principal Lodi High School

Lodi, CA 95240

209-331-7181 • 209-953-8181 209-331-7632 Fax

Additional Energy Conservation Measures Materials List

4:4::		
Measure 1.)		
37ea. LIT LES 1 R 120ELN, UNIVERSAL MT.LED EXIT W. BATTERY	@	141.05/ea.
48ea. LU70 HPS LAMPS	@	13.41/ea.
16ea. LIT TFR 175M TA TB, 175W METAL HALLIDE FLOOD LIGHT	@	164.10/ea.
48ea. ADV72C7984-N-P HPS	@	9.00/ea.
48ea. ADV72C581-N-P, BALLAST KIT MH	@	41.15/ea.
3ea. LIT KAC 175M FP TB TC	@	249.00/ea.
lea. LIT TFR 250M TA TB, 250W METAL HALIDE FLOOD LIGHT	@	180.75/ea.
5ea. LIT TWH70S 120 LPI, 70W HPS WALL PACK	@	74.70/ea.
5ea. TFR 175M TA TB, 175W METAL HALIDE FLOOD LIGHT	@	164.10/ea.
24ea. TFR 400S TA TB TFTS, 400W HPS FLOOD W/TENON MTG.	@	211.02/ea.

Measure 1. Sub total> \$ 18455.06

Tax> \$ 1430.26

Measure 1. Total> \$ 19885.32

Measure 2.)

No costs to program. Material in stock.

Measure 4.)

 8ea. YORK DIHG048N06046BD HVAC UNITS
 @ \$ 1800.00/ea.

 8ea. ECONOMIZER 2MD 04700324
 @ \$ 195.00/ea.

 8ea. RELIEF DAMPERS IRD0410
 @ \$ 45.00/ea.

 8ea. CURB 1RC0434
 @ \$ 100.00/ea

Measure 4. Sub total> \$ 17120.00

Tax> \$ 1326.80

Measure 4. Total> \$18446.00

Measure 5.)

No costs to program.

Measure 6.)

2 ea. MACBALL HEAT SAVER V INSULATING POOL COVER PANELS 81' 10" X 17' 6" 2 ea. MACBALL HEAT SAVER V INSULATING POOL COVER PANELS 41' 10" X 20' 1"

l ea. MACBALL STAINLESS STEEL MODEL 732-20 2 TUBE REEL SYSTEM

Measure 6. Sub total> \$ 8769.00

Tax> \$ 679.59

Delivery & Set Up> \$ 400.00

Measure 6. Total> \$ 9848.00

Measures 1.) 2.) 4.) 5.) 6.) GRAND TOTAL> \$ 48179.32



SECTION I - EXECUTIVE SUMMARY

The City of Lodi Electric Department and Energy Masters International, Inc. (EMI) sincerely appreciates the opportunity to present this "energy efficiency" proposal to Twin Arbors Athletic Club for the feasibility and evaluation of an energy and operational cost savings program at Twin Arbors Athletic Club South Hutchins facility.

This preliminary energy efficiency analysis provides Twin Arbors Athletic Club with the opportunity to address aging and inefficient heating, ventilating and air conditioning (HVAC) and describes cost saving recommendations associated with system replacement and improvements. In this proposal document, we describe what we can accomplish and present a cost-to-savings ratio analysis.

If the recommendations we have made and the cost/savings ratio with utility incentives or a buy-down of interest rates are attractive, we propose that Twin Arbors Athletic Club implement the HVAC installation with EMI. This contract will include turnkey design/build services for complete installation, as well as performance measurement and verification of the energy savings.

An Intelligent Approach to Energy Planning

As the deregulation of the electric industry unfolds, a majority of large energy users are striving to get their arms around their energy supply and demand side management plans. Media and industry attention on the electricity commodity market has caused many firms to scrutinize the operating efficiency of their energy consuming equipment. Further, because utilities such as Lodi Electric are striving to provide their customers with additional value-added services many energy users are experiencing the positive effects of the changing role of the traditional utility provider. The result of all of this is that Twin Arbors Athletic Club has been selected to participate in this "energy efficiency" partnership program developed by Lodi Electric. With the "demand side" measures we are proposing, Twin Arbors Athletic Club is poised to take a major step toward getting the best value for its energy dollar.

Maximizing Available Utility Incentives

Concurrent with the installation of the proposed energy efficiency program, Lodi Electric Utility will dedicate rebate money directly to Twin Arbors Athletic Club to help buy down the cost of the project either in the form of a direct rebate or a buy-down of project financed interest rates. Lodi Electric Utility will determine actual available incentive amounts. The Lodi Electric Utility rebate program is developed and budgeted on an annual basis to assist its customers in becoming as technically and operationally efficient and productive as possible.



annual basis to assist its customers in becoming as technically and operationally efficient and productive as possible.

Recommendations

Replace Existing Heat Pumps with New High Efficiency Air Source Heat Pumps

These measures represent an immediate means to reduce energy consumption, replace old inefficient equipment and create an improved, more comfortable environment for Twin Arbors Athletic Club members and employees.

Savings and Payback

The "demand side" energy efficiency measures we are proposing will reduce annual electric energy costs by \$14,799, or about 22 percent. Annual maintenance and operational savings are calculated to be \$7,200. Total potential annual savings \$21,999. Estimated project payback 3.44 years. Additionally, the City of Lodi Electric Utility will offer direct incentive money or buy-down of financed project interest rate to Twin Arbors Athletic Club for the installation of this energy efficiency project.

Background and Operations Overview

Twin Arbors Athletic Club is recognized as the premier athletic facility in the Lodi area with three facilities and approximately 2,400 members. The main location at 1900 South Hutchins Street has a complete range of member services and equipment.



SECTION I - EXECUTIVE SUMMARY

The City of Lodi Electric Utility and Energy Masters International, Inc. (EMI) sincerely appreciates the opportunity to present this comprehensive energy efficiency and systems design proposal to Wallace Computer Services, Inc.

The preliminary energy efficiency analysis presented in November, 1998, outlined the opportunity and feasibility to address aging and inefficient HVAC, lighting, controls and plant process equipment resulting in cost saving recommendations associated with system replacement and improvements.

In this "Comprehensive Engineered Analysis" (CEA) proposal Wallace Computer Services, Inc. has selected the replacement of the Production Area HVAC system as its primary Energy Conservation Measure (ECM) from the ECM's described in the Preliminary Analysis.

This CEA report includes an in-depth and detailed engineering analysis to validate the replacement of the production area HVAC system with new high efficiency units. And, includes additional energy saving options associated with the HVAC system replacement. The CEA identifies precise measurements for new system load requirements, actual cooling load requirements, equipment selection, savings calculations, turnkey installation costs and a cost-to-savings ratio analysis.

The City of Lodi Electricity Utility will pay the cost of the CEA and fund the cost of the ongoing "Measurement & Verification".

If the CEA cost/savings ratios with utility rebate incentives are attractive, we propose that Wallace Computer Services, Inc. implement the project with EMI. This contract will include turnkey design/build services for complete installation, as well as performance measurement and verification of the energy savings.

An Intelligent Approach to Energy Planning

As the deregulation of the electric industry unfolds, a majority of large energy users are striving to get their arms around their energy supply and demand side management plans. Media and industry attention on the electricity commodity market has caused many firms to scrutinize the operating efficiency of their energy consuming equipment. Further, because utilities such as Lodi Electric are striving to provide their customers with additional value-added services many energy users are experiencing the positive



effects of the changing role of the traditional utility provider. The result of all of this is that Wallace Computer Services, Inc. has been selected to participate in this "energy efficiency" partnership program developed by Lodi Electric. With the "demand side" measures we are proposing, Wallace Computer Services, Inc. is poised to take a major step toward getting the best value for its energy dollar.

Maximizing Available Utility Incentives

Concurrent with the installation of the proposed energy efficiency program, Lodi Electric Utility will dedicate incentive rebate money directly to Wallace Computer Services, Inc. to help buy down the cost of the project at 25% of the installed project amount.

The Lodi Electric Utility rebate program is developed and budgeted on an annual basis to assist its customers in becoming as technically and operationally efficient and productive as possible.

Savings and Payback

The "demand side" energy efficiency measures we are proposing will reduce annual energy costs by \$27,293 or about 11 percent. Annual maintenance and operational savings are calculated to be \$6,860. Total potential annual savings \$34,153 with an estimated simple payback 6.32 years. Further, the City of Lodi Electric Department will offer incentive money directly to Wallace Computer Services, Inc. for the installation of an energy efficiency project in the amount of \$43,136. This buy-down would reduce the overall payback to 4.74 years.

FUTURE ENERGY SAVINGS INITIATIVES

Once the proposed energy efficiency improvements are installed and the anticipated energy savings are realized and verified, we propose to continue developing Wallace's energy fitness by working with staff to identify and install other cost-effective energy savings measures such as warehouse lighting, office area lighting, computerized facilities automation system, and production equipment upgrades and improvements. These measures will help Wallace to realize significant additional cost savings, substantially improve building operations, and enhance the productivity of the manufacturing process.

RESOLUTION NO. 99-31

A RESOLUTION OF THE LODI CITY COUNCIL AUTHORIZING THE CITY MANAGER TO PROVIDE A PUBLIC BENEFITS CHARGE (PBC) GRANT TO WALLACE, INCORPORATED

WHEREAS, the State has mandated that beginning January 1, 1998, the City of Lodi is obligated to fund various programs through a Public Benefits Charge (PBC) based on a historical electric revenue requirement; and

WHEREAS, the requirement amount to approximately \$1M per year that must be dedicated to qualifying programs such as energy efficiency. A further stipulation is that these efforts must be done on the customer's side of the meter in order to qualify; and

WHEREAS, following the Electric Utility Department's review of Wallace, Incorporated, two specific energy conservation measures emerged:

- 1.) The first component entails a plant production-area lighting efficiency & improvement project. Approximately 242 high efficiency T-8 fluorescent lamps will be installed, replacing the existing T-12 lighting system. The new T-8 lights have a rated life span of 20,000 run hours, which is more than double the life of the T-12 lamps. In addition, the new T-8 lamps will significantly reduce the heat output, which in turn reduces cooling load requirements. The other component of the lighting retrofit includes the installation of new, state-of-the-art electronic ballast's in the plants production area.
- 2.) The second phase of the Wallace, Incorporated demand-side management project involves the removal of the plants two existing 60-ton packaged air conditioning units, which have reached their expected useful life and are now operating below design efficiency standards. It is recommended that these units be replaced with two high efficiency 60-ton direct expansion units, that are built with high efficiency fan motors and variable frequency drives.

WHEREAS, the actual Public Benefits Program grant of \$49,136.00 represents 25% of the total installed cost of the aforementioned projects. The additional \$3,600.00 requested for Wallace, Incorporated is for measurement and verification. Three separate readings will be taken to ensure that the installed equipment is operating as designed, and that projected energy savings are being realized by the customer. The total demand-side management project request for Wallace, Incorporated is \$52,736.00; and

WHEREAS, Wallace, Incorporated, a national commercial printer of business forms, labels and other office products, has been located here in Lodi since 1983, and employs over 100 people; and

WHEREAS, the Electric Utility Department recommends that the City provide a PBC grant of \$52,736.00 toward the above upgrades and include the cost of the grant as part of the City's required PBC outlay.

BE IT RESOLVED, that the Lodi City Council hereby authorizes the City Manager to provide a Public Benefits Charge (PBC) Grant in the amount of \$52,736.00 to Wallace, Incorporated.

Dated:	February 17, 1999	

I hereby certify that Resolution No. 99-31 was passed and adopted by the Lodi City Council in a regular meeting held February 17, 1999 by the following vote:

AYES:

COUNCIL MEMBERS - Hitchcock, Nakanishi, Pennino and Land

(Mayor)

NOES:

COUNCIL MEMBERS - None

ABSENT:

COUNCIL MEMBERS - None

ABSTAIN:

COUNCIL MEMBERS - Mann

LICE M. REIMCHE

City Clerk

RESOLUTION NO. 99-32

A RESOLUTION OF THE LODI CITY COUNCIL AUTHORIZING THE CITY MANAGER TO PROVIDE A PUBLIC BENEFITS CHARGE (PBC) GRANT TO TWIN ARBORS ATHLETIC CLUB

WHEREAS, the State has mandated that beginning January 1, 1998, the City of Lodi is obligated to fund various programs through a Public Benefits Charge (PBC) based on a historical electric revenue requirement; and

WHEREAS, the requirement amount to approximately \$1M per year that must be dedicated to qualifying programs such as energy efficiency. A further stipulation is that these efforts must be done on the customer's side of the meter in order to qualify; and

WHEREAS, following the Electric Utility Department's review of Twin Arbors Athletic Club, the following candidates emerged:

- 1.) This funding request in the amount of \$22,535.00 would be utilized for the installation of new, high efficiency air source heat pumps that will replace the 12 existing heat pumps (which were commissioned in 1980). The air source heat pump units utilize the refrigeration cycle for both cooling and heating. This innovative and energy efficient technology serves as a conventional air conditioner while in the cooling mode, and then reverses the refrigeration cycle in the heating mode, by removing heat from the outside conditions and transferring it indoors for space heating. The total projected installed cost for the new air source heat pumps is \$75,739.00. Seventy-five percent of the total installed cost will be borne by the customer. The Public Benefits Program grant request for the installation of the aforementioned equipment totals \$18,935.00.
- 2.) The additional request for \$3,600.00 is for measurement and verification. The City of Lodi Electric Utility will conduct periodic measurements at the Twin Arbors facility that will serve as verification that the projected energy savings are being realized by the customer, and that the installed equipment is performing as designed.

WHEREAS, the Twin Arbors Athletic Club, which operates three facilities in Lodi, employs approximately 100 people. The family and individual health & fitness center has been located at the S. Hutchins Street site since 1981; and

WHEREAS, the Electric Utility Department recommends that the City provide a PBC grant of 22,535.00 toward the above upgrades and include the cost of the grant as part of the City's required PBC outlay.

BE IT RESOLVED, that the Lodi City Council hereby authorizes the City Manager to provide a Public Benefits Charge (PBC) Grant in the amount of \$22,535.00 to Twin Arbors Athletic Club.

Dated: February 17, 1999

I hereby certify that Resolution No. 99-32 was passed and adopted by the Lodi City Council in a regular meeting held February 17, 1999 by the following vote:

AYES:

COUNCIL MEMBERS - Hitchcock, Nakanishi, Pennino and Land

(Mayor)

NOES:

COUNCIL MEMBERS - None

ABSENT:

COUNCIL MEMBERS - None

ABSTAIN:

COUNCIL MEMBERS - Mann

99-32

RESOLUTION NO. 99-33

A RESOLUTION OF THE LODI CITY COUNCIL AUTHORIZING THE CITY MANAGER TO PROVIDE A PUBLIC BENEFITS CHARGE (PBC) GRANT TO LODI UNIFIED SCHOOL DISTRICT (LUSD)

WHEREAS, the State has mandated that beginning January 1, 1998, the City of Lodi is obligated to fund various programs through a Public Benefits Charge (PBC) based on a historical electric revenue requirement; and

WHEREAS, the requirement amount to approximately \$1M per year that must be dedicated to qualifying programs such as energy efficiency. A further stipulation is that these efforts must be done on the customer's side of the meter in order to qualify; and

WHEREAS, in December of 1998, the City of Lodi Electric Utility, in partnership with Energy Masters, International, completed a thorough energy assessment of Lodi High School. As a result of this assessment, a series of ten (10) energy conservation measures were identified and recommended for action to LUSD maintenance and operations personnel. In the weeks following this energy assessment, LUSD developed their specific request for funding list, based upon the City of Lodi's energy recommendations. The LUSD staff has selected the following energy conservation measures, which in total, amount to \$48,180.00 (for various energy efficient equipment and related materials required for installation):

- 1.) remove dozens of existing exterior campus light fixtures, and *replace* with new, energy efficient lighting:
- 2.) install photocell controls and start/stop programming equipment on all exterior lighting;
- 3.) install eight (8) new, high efficiency HVAC (heating/cooling) units, and related installation materials;
- 4.) adjust the school's existing automation system to capture energy savings and enhance the systems operating capacity;
- 5.) install a heat-saving pool cover, and related tube reel system for covering and uncovering of pool.

WHEREAS, in the ensuing months, the City of Lodi Electric Utility and Energy Masters, International, will be teaming up with LUSD maintenance and operations personnel to continue the energy needs assessment at *all* other LUSD school sites and facilities in Lodi. This creative partnership will serve as a benchmark for other electric utilities and school districts around the state to replicate; and

WHEREAS, the Electric Utility Department recommends that the City provide a PBC grant of \$48,180.00 toward the above upgrades and include the cost of the grant as part of the City's required PBC outlay.

BE IT RESOLVED, that the Lodi City Council hereby authorizes the City Manager to provide a Public Benefits Charge (PBC) Grant in the amount of \$48,180.00 to Lodi Unified School District.

•	•	

February 17, 1999

Dated:

I hereby certify that Resolution No. 99-33 was passed and adopted by the Lodi City Council in a regular meeting held February 17, 1999 by the following vote:

AYES:

COUNCIL MEMBERS - Hitchcock, Nakanishi, Pennino and Land

(Mayor)

NOES:

COUNCIL MEMBERS - None

ABSENT:

COUNCIL MEMBERS - None

ABSTAIN:

COUNCIL MEMBERS - Mann

ICE MUREIMCHE

KO City Clerk